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J. Patrick Thompson

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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER

LY, CHEYNE D

ART UNIT

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2168

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/646,940	Applicant(s) THOMPSON ET AL.	
	Examiner CHEYNE D. LY	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 36-70 are examined on the merits.
2. Applicant's arguments with respect to claims 36-70 have been considered but are moot in view of the new ground(s) of rejection.

CLAIM REJECTIONS - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
5. Claims 36-42, 48-55, and 61-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shutt et al. (US 5,905,987A) (Shutt hereafter) taken with Barney et al. (US 6,212,512 B1) (Barney hereafter) and Sandhu et al. (1991) (Sandhu hereafter).
6. In regard to claim 36, Shutt describes a computer implemented method comprising:
storing data for one or more applications in a repository (column 9, line 64, to column 10,

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line 11, e.g. repository), the data stored as objects including content (column 16, lines 41-54, e.g. data values have been interpreted as content), the objects conforming to a base schema that characterizes each object into one or more object types that allows the repository to understand and interpret the content of each object (column 11, line 55, to column 12, line 67, e.g. repository type information and tool information model (schema)...type information is stored by the repository engine for interpretation), wherein the base schema defines object, property base, and extension types, wherein an object type is defined by properties of a foundational object type, the property base type being an anchor from which other property types are derived and through which derived property types are interrelated, and the extension type defines which object an extension extends and identification to distinguish one extension from another (column 11, line 55, to column 12, line 67, e.g. the objects representing the classes, interfaces, properties, collections, and relationships defined in that particular tool information model with interconnections between the above elements being represented by relationships, and column 26, line 65, to column 27, line 47, e.g. extensibility model);

receiving at least one request from said one or more applications for specific content (column 24, lines 21-33, e.g. access the address book and contact repository, column 25, lines 53-64, e.g. an access request);

and

retrieving one or more objects that include said specific content for said one or more applications (column 24, lines 21-33, e.g. access the address book and contact repository,

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column 25, line 53, column 26, line 11, e.g. get property method, lines 21-36, e.g. displaying the contact information).

7. However, Shutt does not explicitly describe storing by an operating system that comprises a file system integrated with a database management program, data for one or more applications, wherein the operating system uses the database management program to generate objects for the data and the file system to store the file streams for the objects, the database management program including...receiving by the operating system...identifying, by the database management program integrated with the file system, a specific object corresponding to the specific data;...retrieving, by the operating system, the specific object corresponding to the specific data.
8. Barney describes storing by an operating system that comprises a file system integrated with a database management program (column 2, lines 40-46, e.g. integrates a database with Windows Explorer file management software in the Microsoft Windows 9X and NT operating system), data for one or more applications, wherein the operating system uses the database management program to generate objects for the data (column 2, lines 61-67, e.g. database is used to record information about file), and the file system to store the file streams for the objects, the database management program including (column 2, lines 40-46, e.g. Windows Explorer file management software in the Microsoft Windows 9X and NT operating system)...receiving by the operating system...identifying, by the database management program integrated with the file system, a specific object corresponding to the specific data;...retrieving, by the operating system, the specific object corresponding to the specific data (column 5, lines 52-64, e.g. COM object interface...may interact to extend the

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user's file system...saved in the database so that Existing File management Software may display this tree in its left pane, and column 11, line 58, to column 12, line 34).

9. However, neither Shutt or Barney describes "an operating system that includes a shell and a kernel, the kernel of the operating system including a file system and a database management program."
10. Sandhu describes an operating system that includes a shell and a kernel, the kernel of the operating system including a file system and a database management program (page 139, column 2, 2nd paragraph, e.g. TCB...trusted operating system, page 145, column 1, last paragraph, to column 2, first paragraph, e.g. the storage layer is entirely within the TCB, and Figure 5).
11. Shutt describes an improvement to allow easy extensibility of the persistent capabilities to custom objects (column 2, lines 66-67) in a conventional SQL database (column 4, lines 59-60) which avoids inefficiencies by creating a repository for storing object state in which mapping is done by forming two types of tables (column 4, lines 48-50). While, Barney describes a method of integrating a database into a file management system software requiring the extension of existing objects (column 6, lines 31-44). Sandhu describes a secure kernelized architecture for multilevel database management systems (Abstract). One of ordinary skill in the art at the time of the invention would have been motivated by Shutt to improve the system of Barney and Sandhu to allow easy extensibility of the persistent capabilities to custom objects such as existing objects of Barney.
12. In regard to claim 37, Shutt in view of Barney and Sandhu describes the schema further defines at least one base object type including at least one base object type property (column

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11, line 55, to column 12, line 67, e.g. from the root object all of the repository type binary objects representing the individual tool information model type definitions...the objects representing the classes, interfaces, properties, collections, and relationships defined in that particular tool information model with interconnections between the above elements being represented by relationships).

13. In regard to claims 38, Shutt in view of Barney and Sandhu describes storing, by the operating system, at least one object in said database management program integrated with the file system (Barney, column 2, lines 40-46, e.g. integrates a database with Windows Explorer file management software in the Microsoft Windows 9X and NT operating system), said object being derived from said object type and including said at least one base object type property (Shutt, column 26, line 65, to column 27, line 19, e.g. a custom object can be extended from the generic repository object).
14. In regard to claim 39, Shutt in view of Barney and Sandhu describes storing, by the operating system, said at least one object in said database management program integrated with the file system (column 2, lines 40-46, e.g. integrates a database with Windows Explorer file management software in the Microsoft Windows 9X and NT operating system).
15. In regard to claim 40, Shutt in view of Barney and Sandhu describes said base object type comprises a property that uniquely identifies said object to said database management program integrated with the file system (column 11, line 55, to column 12, line 67, e.g. the objects representing the classes, interfaces, properties, collections, and relationships defined in that particular tool information model with interconnections between the above elements being represented by relationships).

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16. In regard to claim 41, Shutt in view of Barney and Sandhu describes schema defines at least one base property that defines all other properties utilized by the said database management program integrated with the file system (column 10, lines 31-42, e.g. root repository object, and column 7, lines 1-8, e.g. properties are stored, and column 11, line 55, to column 12, line 67, e.g. from the root object all of the repository type binary objects representing the individual tool information model type definitions).
17. In regard to claim 42, Shutt in view of Barney and Sandhu describes said schema defines at least one base relationship type that defines all other relationships utilized by the said database management program integrated with the file system (column 10, lines 31-42, e.g. root repository object, and column 6, lines 59-67, e.g. have binary extensibility through wrapping, and column 11, line 55, to column 12, line 67, e.g. from the root object all of the repository type binary objects representing the individual tool information model type definitions).
18. In regard to claim 48, Shutt in view of Barney and Sandhu describes the base schema further defines a second property type that constitutes a base type for categories (Figure 10, e.g. Property 1...Property N).
19. In regard to claims 49-55 and 61-67, Shutt in view of Barney and Sandhu describes the computer implemented method and system (Figure 2) for implementing the above cited method.
20. Claims 43-47, 56-60, and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shutt et al. (US 5,905,987A) (Shutt hereafter) and Barney et al. (US

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6,212,512 B1) (Barney hereafter) and Sandhu as applied to claims 36-42, 48-55, and 61-67 above, and further in view of Miloushev et al. (US 20010037412A1) (Miloushev hereafter).

MOTIVATION TO COMBINE

21. Shutt describes an improvement to allow easy extensibility of the persistent capabilities to custom objects (column 2, lines 66-67) in a conventional SQL database (column 4, lines 59-60) which avoids inefficiencies by creating a repository for storing object state in which mapping is done by forming two types of tables (column 4, lines 48-50). While, Barney describes a method of integrating a database into a file management system software requiring the extension of existing objects (column 6, lines 31-44). Sandhu describes a secure kernelized architecture for multilevel database management systems (Abstract). While, Miloushev describes a system for using composition by extending existing object models rather than defining a new object model (page 4, [0050]). One of ordinary skill in the art at the time of the invention would have been motivated by Shutt to improve the system of Barney, Sandhu, and Miloushev to allow easy extensibility of the persistent capabilities to custom objects.

BASIS FOR PRIOR ART

22. In regard to claim 43, Shutt in view of Barney describes storing said at least one additional object in said repository (column 14, lines 30-49, e.g. creating two different types of objects), wherein said object includes a containment relationship defined by said schema (column 14, line 35-36, e.g. contains relationship).

23. However, Shutt, Sandhu, and Barney do not explicitly describe a containment relationship defined by said schema that controls the life-time of another object that is the

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target of the relationship. Miloushev describes a containment relationship defined by said schema that controls the life-time of another object that is the target of the relationship (page 28, [0535], e.g. upon destruction, assemblies dissolve all contained connections and destroy all subordinate parts). Therefore, it would have been obvious to one of ordinary skill in the art to make and use the system of Shutt, Sandhu, and Barney with a containment relationship defined by said schema that controls the life-time of another object that is the target of the relationship as described by Miloushev to allow easy extensibility of the persistent capabilities to custom objects.

24. In regard to claim 44, Shutt, Sandhu, and Barney in further view of Miloushev describes storing said at least one additional object in said repository (column 14, lines 30-49, e.g. creating two different types of objects), wherein said at least one additional object is derived from said base object type and said at least one additional object includes a relationship to an object folder derived from said base object type, wherein said object folder being the source of the relationship and said object is the target of said relationship (column 18, lines 17-39, e.g. collection of relationships...a collection (folder) of object).
25. In regard to claim 45, Shutt, Sandhu, and Barney in further view of Miloushev describes the existence of a containment relationship is indicated by a property field in the source object of the relationship (column 14, line 35-36, e.g. contains relationship).
26. In regard claim 46, Shutt, Sandhu, and Barney in further view of Miloushev describes the claimed invention except for the limitation of deleting the object that constitutes the source in a containment relationship and in response to deleting the source, deleting any objects that are the targets of the containment relationship. Miloushev describes deleting the object that

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constitutes the source in a containment relationship and in response to deleting the source, deleting any objects that are the targets of the containment relationship (page 28, [0535], e.g. upon destruction, assemblies dissolve all contained connections and destroy all subordinate parts). Therefore, it would have been obvious to one of ordinary skill in the art to make and use the system of Shutt, Sandhu, and Barney with deleting the object that constitutes the source in a containment relationship and in response to deleting the source, deleting any objects that are the targets of the containment relationship as described by Miloushev to allow easy extensibility of the persistent capabilities to custom objects.

27. In regard to claim 47, Shutt, Sandhu, and Barney in further view of Miloushev describes configuring said target of the containment relationship to be the target of multiple containment relationships (Figure 5, e.g. Contains Relationship 210, and Figure 7).
28. In regard to claims 56-60, and 68-70, Shutt, Sandhu, and Barney in further view of Miloushev describes the computer implemented method and system (Figure 2) for implementing the above cited method.

CONCLUSION

29. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
30. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory

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period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

31.

32. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

33. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199. The USPTO's official fax number is 571-272-8300.

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34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.
35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo, can be reached on (571) 272-3642.

/Cheyne D Ly/

Primary Examiner, Art Unit 2168